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ABSTRACT

This paper discusses Web evaluation standards set up by librarians, by search engine companies, by Web site diagnostic services, and by educators or school districts. The online or print-based Web site evaluation standards published by educators for students and other educators are found to be most useful to meeting the need of guidance for K-12 teachers in selecting quality Web sites for their students. A good educational Web site needs to consider not only the format (e.g., user friendly, aesthetically courteous, and aesthetically appealing), the content (e.g., credible, useful, rich, and interdisciplinary), but also the learning process (e.g., higher-order thinking, engaging, and multiple intelligences or talents). (Author/MES)

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Web Site Evaluation Rubrics for K-12 Educators: An On-line Literature Review

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

Abstract: A causal talk with a technology specialist with a school district reminded the authors to the urgent need of guidance for K-12 teachers in selecting quality web sites for their students. The paper will discuss web evaluation standards set up by the librarians, by the search engine companies, by the web site diagnostic services, and finally by educators or school districts. The on-line or print-based web site evaluation standards published by educators for students and other educators are the most useful to meet the urgent need of guidance for K-12 teachers in selecting quality web sites for their students. A good web educational web site need to consider not only the format (including user friendly, aesthetically courteous, and aesthetically appealing), the content (including credible, useful, rich, and interdisciplinary), but also the learning process (including higher-order thinking, engaging, and multiple intelligences or talents).

Introduction

A causal talk with a technology specialist with a school district reminded the authors to the urgent need of guidance for K-12 teachers in selecting quality web sites for their students. Some schools districts are already offering rubrics with detailed items and a weighting formula to assist teachers in evaluating educational software. With the advent of the World Wide Web and the huge amount of information that is contained there, teachers also need to be able to critically evaluate a Web page for authenticity, applicability, authorship, bias, and usability. The ability to critically evaluate information on Web has become an important skill in this information age for teachers. While software evaluation rubrics are widely used by school teachers as guidelines, many school districts are falling behind in recommending good web site evaluation rubrics for teachers. The purpose of this paper is to review the web site rating standards currently available on the Web to assist teachers and students in choosing good web sites for their classrooms.

The Librarians' Effort

Librarians were the first group of professionals to conduct a systematic research over the topic of Web sites evaluation. As libraries select Internet resources to be linked on their web sites, they decided that this process needs to be guided by a policy with stated criteria, just as book selection has been. For librarians, it is easiest to decide just which of these qualities typifies a particular resource if that resource has an analog in the well-established world of printed publications. The Librarian's Guide to Cyperspace for Parents & Kids (http://www.ala.org/parentspage/greatsites/selection.html) is suggested by the Children and Technology Committee of the Association for Library Service to Children, a division of the American Library Association:

- The purpose and content of the Web site are clear.
- A source is clearly identified.
- Contact information is provided.

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- The content encourages exploration and thinking. It is appealing to, and suits the age level of, the children for whom it is designed.
- The site is easy to access. It loads quickly, and essential information comes on the screen first.
- The information is accurate and updated regularly.
- The site takes advantage of the possibilities of the Web - it does more than can be done with print. It contributes something unique or unusual.
- Parents should also examine Web sites for racial, gender and other biases they feel are inappropriate for their children.

Among the web evaluation efforts by the librarian, the monthly Rettig on Reference (http://www.hwwilson.com/retintro.html) by James Rettig and The Infofilter project (http://www.usc.edu/users/help/flick/Infofilter/) evaluate Internet resources, primarily Web sites with an academic or a general reference purpose. For example, The Infofilter project's review of THOMAS: Legislative Information on the Internet (http://thomas.loc.gov/) includes technical information (such as name of site, URL, developer, date site last updated, keywords), and a review written by graduate students, librarians, or university professors (see Figure 1). The sort of criteria implicit in these review services are explained in sources such as the Reference Books Bulletin Editorial Board Manual and Norman Stevens' "Evaluating Reference Books in Theory and Practice".

Nevertheless, since the web site evaluation templates produced by librarians are rooted in the established criteria of print reviewing traditions, and primarily with an academic or a general reference purpose, not all criteria are applicable to web sites. In some cases, they put weights on items that may not be as important to some of the web sites and are missing out the dynamic nature of the World Wide Web. And in most cases, the learning process (including higher-order thinking, engaging, and multiple intelligences or talents) of the viewer are not considered. For example, some reviewers with library put emphasis on having search function as a critical criteria for a good web site because they think search function is comparable to index, which is a must for a good printed book. The web site evaluation templates produced by librarians also compare visual medium on web sites to illustrations in printed books. Even though some genres on the web resemble the genres in print, the dynamism of the electronic medium and the ease with which related resources can be incorporated into a site through hot links require development of criteria appropriate to Web resources. There are many design issues peculiar to the web as a medium which are not taken into proper consideration. Besides, many of these templates also do not incorporate issues such as age appropriateness for children, content area subjects, equality issues, and so on. These criteria need to be modified before they can be successful applied to evaluating educational web sites for teaching.

The Commercial Search Engines' Effort

Other than libraries, search engines, web sites, or print-based trade magazines have also contributed to the topic of web site assessment. Some adopt start rating and others choose to review with text comments. Most of the commercial services' rating systems are proprietary. Besides, many of the web sites offering these rating systems do not provide on-line explanation of the evaluation standards neither the meanings of what those percentiles, 5 point scales, 10 point scales, or stars stand for.

Among the commercial search engines with built-in web site evaluation function, Lycos lists hits related with the user-entered keywords with text description written by volunteer editors. Users of Lycos search engine can also click on the top 5% pre-selected web sites to start their surfing activities. Both of the on-line version and the printed version of Yahoo! Internet Life (http://www.zdnet.com/yil/filters/channels/reviews.html) offer web site reviews which combine star ratings and text. A search on the keyword "lesson plans" was returned with more than ten "hits" or "results". A click on "Grolier Multimedia Encyclopedia Online" (see Figure 2) links the reader to a whole page of site review which includes information such as cost, user interface, and the like. Yahoo! Internet Life adds a nice feature by pre-sorting resources in approximately twenty categories, each devoted to a particular topic. A click on the "Kids & Family" category returned another twenty subcategories (see Figure 3). The user will follow the link and narrow down the number of hits they need to explore. This feature is very helpful when the topics are for general interest but useless for uncommon topics. However, it doesn't apply to situations when the reader already have a web site in question and just need to have assessment guidelines. The commercial services' rating systems do not come in handy when teachers or students have to evaluate a web site on spot.

The Web Site Diagnostic Services' Effort

In the commercial arena, an interesting web service has just arose to run automated diagnostics on any web sites upon requests. Web Site Garage (http://websitegarage.netscape.com) is one of these services. Among the items the automated diagnostics checked are link popularity check, browser compatibility, spell check, HTML check, dead link check, load time check, and other functions. The author requested a free service to evaluate on the University of Houston Downtown's (UHD) home page and are returned with two kinds of results. The web version of the diagnosis told me that the UHD home page overall is rated as "Good" from among Excellent, Good, Fair, and Poor. It also includes detailed diagnosis (see Figure 4). The results which are e-mailed to the requesters also include diagnosis and overall rating (see Figure 5). Both the web-based results and the e--mailed result can be used to evaluate or tune up web sites. A similar service, the result of SITEMARKETINGINSIGHTS.COM (http://www.sitemarketinginsights.com/) includes a report detailing a critique and specific suggestions for how a web site can be improved. This site of commercial web site diagnostic services are based on the features of a web sites which can be quantified but offer little help in judging the qualitative nature of a web site.

On-line and Print-based Bibliography on the Topic of Web Sites Evaluation

There are also on-line and print-based bibliography on the topic of web sites evaluation such are Evaluation of World Wide Web Sites: An Annotated Bibliography (http://ericir.syr.edu/ithome/digests/edoir9802.html) by Kathleen Schrock, and Evaluating Web Resources: Bibliography (http://www.science.widener.edu/~withers/wbstrbib.htm) by Jan Alexander and Marsha Ann Tate.

The Educator's Effort

As for efforts from the state level to meet teachers' demand for selecting quality web sites, the Texas state sponsored network for educators Texas Education Network (http://www.tenet.edu/), for instance, has a collection of annotated links to web sites organized by subject area under its "TENET Halls of Academia" heading. Yet it does not endorse any kind of evaluation standard. It provides what it thinks as "quality web sites" yet it does not endorse any kind of evaluation standard. Therefore, like Yahoo! Internet Life mentioned above, this kind of information is not helpful in situations when the reader already have a web site in question and just need to apply assessment guidelines.

And finally, there are on-line and print-based web site evaluation standards published by educators and dedicated to students and other educators alike. In most cases, rubrics designed by educators to students or other educators are more likely to be found on homepages developed and maintained by groups of schools, or school districts.

Loogootee Community Schools in Indiana, among the best of this kind, have disseminated on its web site (http://www.siec.k12.in.us/west/online/eval.htm) rubrics that either primary, intermediate, or secondary students can use to evaluate web sites. As print-based web site evaluation standards, the rubrics published here all employ a five points scale, with 1 indicating "poor" and 5 indicating "exceptional". In addition, they all have incorporated questions regarding a web site under evaluation in 4 categories: design, content, technical elements, and credibility. Using the 25 point evaluation guide provided on the web site, young children in primary grades can begin learning how to assess the content of Internet information by answering 5 questions regarding the four categories mentioned above (2 questions regarding content, and 1 question each for the other 3 categories). Step up from the primary rubric, and following the same pattern, yet with age appropriate vocabulary and questions, the 50 points rubric is designed for the intermediate grades and the 100 point rubric is designed for the secondary students. From the web site, educators can easily print out a copy of the rubric appropriate to their grade level and use it.

The most comprehensive web-based web evaluation rubric sponsored by the states for the educators can be found at http://www.open.k12.or.us/jitt/evalform.html#Aesthetic authored by the OPEN project (Oregon Public Education Network). The checklist (see Figure 6) is designed based on the characteristics of a good Web site found in the SDSU/PacBell Fellows BlueWeb'n Applications Evaluation Rubric (http://www.kn.pacbell.com/wired/blueweb/rubric.html) which looks at the following components:

- format (including user friendly, aesthetically courteous, and aesthetically appealing),
- content (including credible, useful, rich, and interdisciplinary), and
- learning process (including higher-order thinking, engaging, and multiple intelligences or talents)

The score for these types of applications is weighted to yield a total possible score of 20 points: each "Poor" rating gets 0 points, each "good" gets 1 point, and each "excellent" gets 2 points, for a total of 20 possible points. This web rubric was originally designed to provide immediate feedback to the user. Unfortunately, the button for automatic totaling was de-activated as of November 17, 1999.

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Conclusion

The on-line or print-based web site evaluation standards published by educators for students and other educators are the most useful to meet the urgent need of guidance for K-12 teachers in selecting quality web sites for their students. A good web educational web site need to consider not only the format (including user friendly, aesthetically courteous, and aesthetically appealing), the content (including credible, useful, rich, and interdisciplinary), but also the learning process (including higher-order thinking, engaging, and multiple intelligences or talents). It will be especially beneficial if there are more state sponsored projects such as the Open Project mentioned in the previous section which already have built-in mechanism with reliable web evaluation standards and immediate online rating feedback.

References:

Reference Books Bulletin Editorial Board Manual. (Chicago: American Library Association, 1990).

Stevens, Norman. "Evaluating Reference Books in Theory and Practice," Reference Librarian, No. 15 (1986): pp. 9-19.

Figure 1: Review page of THOMAS: Legislative Information on the Internet

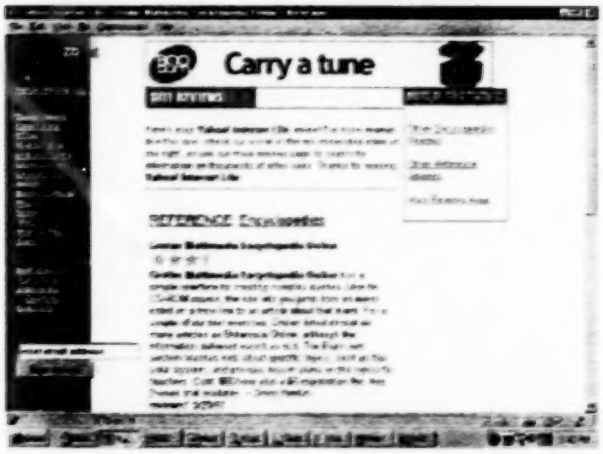

Figure 2: Review page of Grolier Multimedia Encyclopedia Online

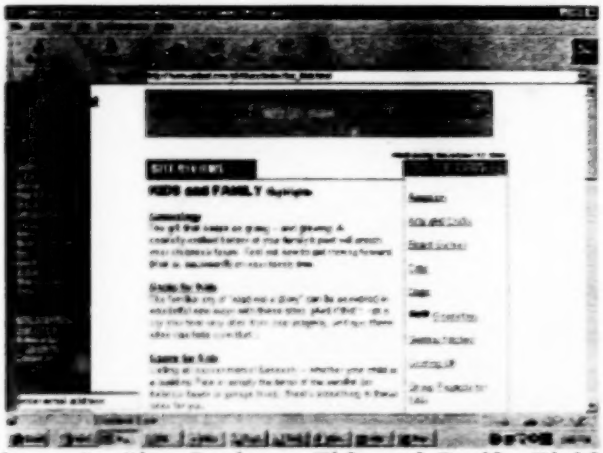

Figure 3: Site Reviews: Kids and Family Highlights

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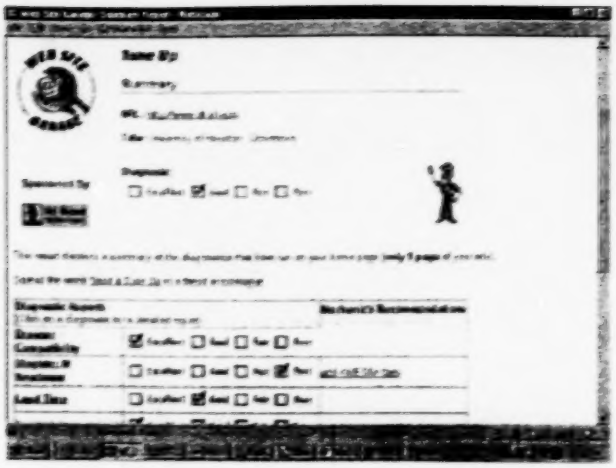

Figure 4: Site Reviews of University of Houston Downtown by Web Site Garage

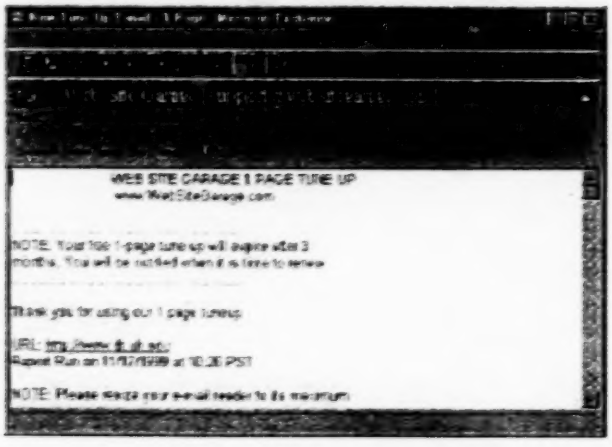

Figure 5: Site Reviews by Web Site Garage through e-mail

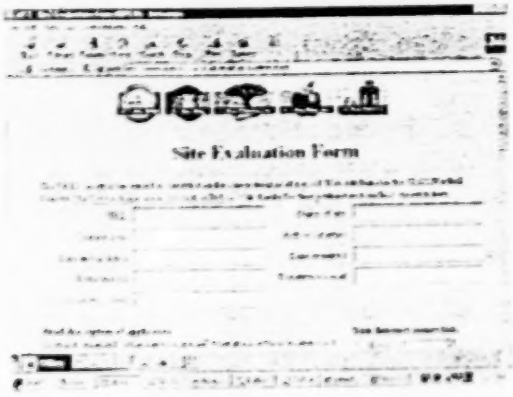

Figure 6: Open Project's Interactive Site Evaluation Form

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